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ABSTRACT OF THE DISCLOSURE

This invention describes a practical application of noise reduction in hearing aids. Although listening in noisy conditions is difficult for persons with normal hearing, hearing impaired individuals are at a considerable further disadvantage. Under light noise conditions, conventional hearing aids amplify the input signal sufficiently to overcome the hearing loss. For a typical sloping hearing loss where there is a loss in high frequency hearing sensitivity, the amount of boost (or gain) rises with frequency. Most frequently, the loss in sensitivity is only for low-level signals; high level signals are affected minimally or not at all. A compression hearing aid is able to compensate by automatically lowering the gain as the input signal level rises. This compression action is usually compromised under noisy conditions. In general, hearing aids are of lesser benefit under noisy conditions since both noise and speech are boosted together when what is really required is a reduction of the noise relative to the speech. A noise reduction algorithm with the dual purpose of enhancing speech relative to noise and also providing a relatively clean signal for the compression circuitry is described.